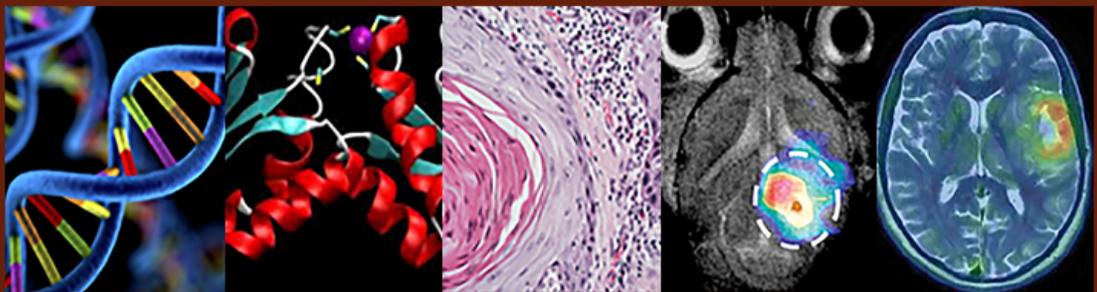


CIRP



May 3, 2023, Day 1, EDT

- 10:00 am Introduction**
Huiming Zhang, PhD, DCTD, NCI
- 10:05 am Welcome**
Janet Eary, MD, Associate Director, DCTD, NCI

Part I CIRP Program

Moderator: Huiming Zhang, PhD, DCTD, NCI

- 10:10 am Session I CIRP Teams And Associate Members**
New CIRP Team Presentation
WASHINGTON UNIVERSITY CO-CLINICAL IMAGING RESEARCH RESOURCE
Kooresh Shoghi, PhD, Washington University in St Louis
- 10:25 am Established CIRP Team/Associate Member Progress**
CO-CLINICAL RESEARCH RESOURCES FOR IMAGING TUMOR ASSOCIATED MACROPHAGES
Heike Daldrup-Link, MD, Stanford University
- 10:40 am A QUANTITATIVE PET/CT RESEARCH RESOURCE FOR CO-CLINICAL IMAGING OF LUNG CANCER THERAPIES**
Paul Kinahan, PhD, University of Washington
- 10:55 am CO-CLINICAL QUANTITATIVE IMAGING OF SMALL CELL NEUROENDOCRINE PROSTATE CANCER USING HYPERPOLYZED 13C MRI**
John Kurhanewicz, PhD, University of California at San Francisco
- 11:10 am DEVELOPMENT OF AN OPEN-SOURCE PRECLINICAL IMAGING INFORMATICS PLATFORM FOR CANCER RESEARCH**
Kooresh Shoghi, PhD, Washington University at St Louis

11:25 am Break (10 min)

- 11:40 am UNIVERSITY OF MICHIGAN QUANTITATIVE CO-CLINICAL IMAGING RESEARCH RESOURCE**
Brian Ross, PhD, University of Michigan
- 11:50 am INTEGRATING OMICS AND QUANTITATIVE IMAGING DATA IN CO-CLINICAL TRIALS TO PREDICT TREATMENT RESPONSE IN TRIPLE NEGATIVE BREAST CANCER**
Mike Lewis, PhD, Baylor College of Medicine
- 12:05 pm MDACC PREDICT**
Charles Manning, PhD, MD Anderson Cancer Center
- 12:20 pm PENN QUANTITATIVE MRI RESOURCE FOR PANCREATIC CANCER**
Rong Zhou, PhD, University of Pennsylvania

12:35 pm Lunch Break (35 min)

1:10 pm Session II Poster Power Pitch

Advances in Animal Models, Co-Clinical Trials, and Co-Clinical Imaging Applications

Moderators: Donna Peehl, PhD, University of California San Francisco
Shunqiang Li, PhD, Washing University in St Louis

1:40 pm Animal Models and Co-Clinical Trials Working Group Talk

Moderators: Donna Peehl, PhD, University of California San Francisco
Shunqiang Li, PhD, Washing University in St Louis

PET-Guided Therapy for Triple Negative Breast Cancer

Bernadette Marquez-Nostra, PhD, University of Alabama at Birmingham

2:00 pm Break (10 min)

2:10 pm Advances in Imaging Acquisition, Data Processing, and Method Development

Moderators: Renuka Sriram, PhD, University of California San Francisco
Robia Paulter, PhD, Baylor College of Medicine

3:00 pm Break (10 min)

3:10 pm Advances in Informatics, Web Resources, and Method Development

Moderators: Dariya Malyarenko, PhD, University of Michigan
James Gee, PhD, University of Pennsylvania

4:00 pm End of the 1st day

May 4, 2023, Day 2, EDT

Part II CIRP Network and Working Groups

10:00 am Session III CIRP Network, Status and Progress

Moderator: Mike Lewis, PhD, Baylor College of Medicine
Brian Ross, University of Michigan

CIRP Network Update

Mike Lewis, PhD, Baylor College of Medicine

10:10 am Session IV Animal Model & Co-Clinical Trial (AMCT) WG

Moderators: Donna Peehl, PhD, University of California San Francisco
Shunqiang Li, PhD, Washing University in St Louis

Working Group Update

Donna Peehl, PhD, University of California San Francisco

10:30 am Presentations:

Mouse Models of Human Cancer: Genetic Background Matters

Carol Bult, PhD, Jackson Lab

10:50 am Novel Therapeutics Development using Patient-derived Xenograft Models of Triple Negative Breast Cancer

Cynthia Ma, MD/PhD, Washington University in St Louis

11:10 am Translational and Co-Clinical Imaging and Radiopharmaceutical Therapy Studies Guide the Development of CD46 Theranostics

Robert Flavell, MD/PhD, University of California San Francisco

10:30 am Break (10 min)

11:40 am Session V Imaging Acquisition & Data Process (IADP) WG

Moderators: Renuka Sriram, PhD, University of California San Francisco
Robia Paulter, PhD, Baylor College of Medicine

Working Group Update

Renuka Sriram, PhD, University of California San Francisco

11:55 am Presentations:

Quantification and Modeling of Deuterium MRS and Kinetics for Brain Application

Wei Chen, PhD, University of Minnesota

12:16 pm Dual-Tracer Imaging of Metabolism on a Long-axial Field-of-view PET

Austin Pantel, MD, University of Pennsylvania

12:37 pm Pharmacokinetic Modeling to Enhance Reproducibility and Interpretation of Metabolic Imaging Biomarkers

James Bankson, PhD, MD Anderson Cancer Center

1:00 pm Lunch Break (40 min)

1:50 pm Session VI Informatics & Outreach (IMOR) WG

Moderators: Dariya Malyarenko, PhD, University of Michigan
James Gee, PhD, University of Pennsylvania

Preclinical Imaging Interoperability Resource (PIIR) Catalogue: Current Status

Dariya Malyarenko, PhD, University of Michigan

2:00 pm **UPENN Preclinical MRI Interoperability Workflow Demo**
Jeffrey Duda, PhD, University of Pennsylvania

2:20 pm **DICOM Integration for Hyperpolarized ¹³C MRI**
Ernesto Diaz, University of California San Francisco

2:40 pm **PIXI Interoperability Environment Demo for Multi-Modality Preclinical Imaging**
Andrew Lassiter, Washington University in St Louis

3:00 pm **Break (10 min)**

3:10 pm **Session VII CIRP Network: Integration Issues from WGs**
Chair & Moderators: Michael Lewis, PhD, Baylor College of Medicine
Brain Ross, PhD, University of Michigan

Part III CIRP Management and Business

3:40 pm **Session IX Business Meeting**
All SC Members and NCI CIRP PDs
Chair/moderator: Michael Lewis, PhD, Baylor College of Medicine
Brain Ross, PhD, University of Michigan
Huiming Zhang, PhD, NCI

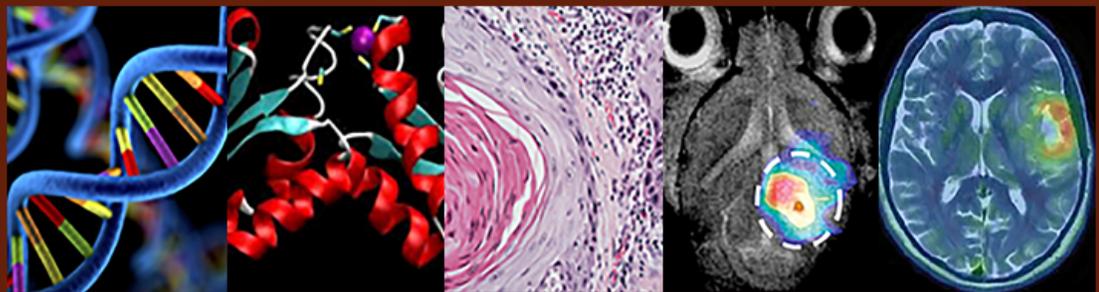
4:00 pm **End of the 2nd day.**

Part VI Electronic Posters

April 27 - May 04, 2023, EDT

Each Prerecorded Video Has Eight Slides for Ten min

CIRP Members and Outside Investigators



Power Pitch for CIRP Posters, 1:10 - 4:00 pm EDT, May 3, 2023

Advances in Animal Models, Co-Clinical Trials, and Co-Clinical Imaging Applications

- 1. Establishment of preliminary signature to predict efficacy of combined blockade of EGFR and glutaminolysis in WT *KRAS* colorectal cancer**
S-W Bae, KK Ciombor, et al., The University of Texas MD Anderson Cancer Center
- 2. PET imaging of glutaminolysis to predict EGFR blockade in WT *KRAS* colorectal cancer**
K Runge, S-W Bae, et al., The University of Texas MD Anderson Cancer Center
- 3. Analysis of growth characteristics of adenocarcinoma and small cell neuroendocrine prostate cancer patient derived xenograft models**
A Sinha, S Agarwal, et al., University of California San Francisco
- 4. Metabolic similarity of prostate cancer patient-derived xenografts propagated in the bone versus liver**
I Mali, D Upadhyay, et al., University of California San Francisco
- 5. Multimodal approach to response Assessment in a phase II pediatric glioma clinical trial**
D Ramakrishnan, M von Reppert, et al., Yale University

Advances in Imaging Acquisition, Data Processing, and Method Development

- 1. Quantitative methods using long-lived phantoms to cross-calibrate preclinical and clinical PET scanners for co-clinical imaging trials**
P Kinahan, University of Washington
- 2. Reproducibility of quantitative T2* mapping of osteosarcomas in mouse models**
R Roudi, L Pisani, et al., Stanford University
- 3. Protocol for measurement of tumor T2* relaxation times after iron oxide nanoparticle administration**
SK Ramasamy, LC Adams, et al., Stanford University
- 4. Metabolite-specific echo planar imaging for preclinical studies with hyperpolarized 13C-pyruvate MRI**
S Sahin, X Ji., et al., University of California San Francisco
- 5. Quantitative MRI metrics reveal effects of stroma-directed drug and chemotherapy for a GEM model of pancreatic cancer**
M Gupta, T Karasic, et al., University of Pennsylvania
- 6. Trend analysis of MRI biomarkers for bone marrow in murine myelofibrosis model**
D Malyarenko, CA Bonham, et al., University of Michigan
- 7. MRI-based digital twins to forecast treatment response in breast cancer patients**
C Wu, CE Stowers, et al., The University of Texas at Austin

8. High-resolution hybrid micro-CT imaging using photon counting and energy integrating detectors

AJ Allphin, R Nadkarni., et al., Duke University

9. Generation of parametric images from dual-input dynamic PET acquisition based on spectral analysis basis pursuit

S Li., KI Shoghi, Washing University in St Louis

Advances in Informatics, Web Resources, and Method Development

1. Practical Integration of Omic and Imaging Data in Co-Clinical Trials using MIRACCL, a web-based tool

MT Lewis, H Dowst, Baylor College of Medicine

2. The ePAD Platform For Extracting And Analyzing Cancer Image Features in Co-Clinical Trials

E Alkim, O Yurtsever, et al, Stanford University

3. MDACC PREDICT web-accessible resource: current status and future directions

K Runge, H Dowst, et al., The University of Texas MD Anderson Cancer Center

4. BiRAT: Pre-clinical image management and registry platform

F Habte, R Pemmaraju, et al., Stanford University

5. Deep learning-based denoising of photon counting CT data

R Nadkarni, DP Clark, et al., Duke University

6. Improved repeatability of mouse tibia volume segmentation in murine myelofibrosis model using deep learning

RF Mourad, A Kushwaha, et al., University of Michigan

7. Learning apparent diffusion coefficient maps from accelerated radial k-space diffusion-weighted MRI in mice using a deep CNN-transformer model

Y Li, MRG Joaquim, et al., University of Pennsylvania

8. Machine learning framework for DII4 expression stratification in triple-negative breast cancer using dynamic NIR fluorescence imaging

S Shafiee, J Jagtap, et al., Medica College of Wisconsin

9. Self-supervised learning framework for generating standard-count PET images from low-count PET images

K Dutta, R Laforest., et al., Washing University in St Louis

10. CT-Radiomics correlation with clear cell renal cell carcinoma tumor immune microenvironment: a study on tumor-infiltrating lymphocytes and tumor-associated macrophages

A Shieh, S Cen., et al., University of South California